Complete Summary

GUIDELINE TITLE

Outpatient management of uncomplicated deep venous thrombosis.

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Outpatient management of uncomplicated deep vein thrombosis. Southfield (MI): Michigan Quality Improvement Consortium; 2005 Aug. 1 p.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Michigan Quality Improvement Consortium. Outpatient management of uncomplicated deep venous thrombosis. Southfield (MI): Michigan Quality Improvement Consortium; 2003 Aug. 1 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Uncomplicated acute deep vein thrombosis

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Health Plans
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To achieve significant, measurable improvements in the management of uncomplicated deep venous thrombosis through the development and implementation of common evidence-based clinical practice guidelines
- To design concise guidelines that are focused on key management components of uncomplicated deep venous thrombosis to improve outcomes

TARGET POPULATION

Adult patients ≥18 years of age with:

- Diagnosis of acute deep vein thrombosis (DVT), confirmed by duplex ultrasonography or venography
- No contraindications to anticoagulation or use of low molecular weight heparin (LMWH)

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

1. Comprehensive history and physical examination
2. Assessment of risk factors and contraindications to anticoagulation therapy
3. Assessment of therapy compliance

Treatment

1. Low molecular weight heparin (LMWH)
2. Warfarin

Management

1. Assessment of therapy using laboratory values (activated partial thromboplastin time [aPTT], prothrombin time/international normalized ratio [PT/INR], complete blood count [CBC] with platelet count), Anticoagulation Monitoring Log, common bleeding sites, signs/symptoms of pulmonary embolism
2. Patient education

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Michigan Quality Improvement Consortium (MQIC) project leader conducts a search of current literature in support of the guideline topic. Computer database searches are used to identify published studies and existing protocols and/or clinical practice guidelines on the selected topic. A database such as MEDLINE and two to three other databases are used.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence for the Most Significant Recommendation

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Using the health plan guideline summaries and information obtained from the literature search, the Michigan Quality Improvement Consortium (MQIC) director and/or project leader prepare a draft guideline for review by the MQIC Medical Directors.

The draft guideline and health plan guideline summaries are distributed to the MQIC Medical Directors for review and discussion at their next committee meeting.

The review/revision cycle may be conducted over several meetings before consensus is reached. Each version of the draft guideline is distributed to the MQIC Medical Directors, Measurement, and Implementation committee members for review and comments. All feedback received is distributed to the entire membership.

Once the MQIC Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Once the Michigan Quality Improvement Consortium (MQIC) Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

The MQIC director also forwards the approved guideline draft to presidents of the appropriate state medical specialty societies for their input. All feedback received from external reviews is presented for discussion at the next MQIC Medical Directors Committee meeting. In addition, physicians are invited to attend the committee meeting to present their comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The level of evidence grades (A-D) are provided for the most significant recommendations and are defined at the end of the "Major Recommendations" field.

Initial Assessment

- Perform initial comprehensive history and physical examination; consider conditions predisposing to deep vein thrombosis (DVT).
- Assess risk factors and contraindications to outpatient anticoagulation therapy. (See "Contraindications" field.)
- Assess patient/caregiver ability and compliance for outpatient therapy and need for home care resources

Pharmacologic Interventions

- Start low molecular weight heparin (LMWH) and warfarin on same day.
    - Initiate concurrent warfarin therapy [A] at 5 mg orally on day of DVT diagnosis; titrate to international normalized ratio (INR) range of 2.0 to 3.0.
    - Continue LMWH until INR range 2.0 to 3.0 for 2 consecutive days (usually LMWH 5 to 7 days) [A].
    - Maintain warfarin therapy at least 3 months in therapeutic INR range [A].
    - Consider long-term therapy with warfarin if risk of reoccurrence [A] and re-evaluate need for warfarin at 3 months.
    - Ask about any changes in diet, medications, and compliance before any dosage adjustment.

Testing/Monitoring

- Obtain baseline lab values: activated partial thromboplastin time (aPTT), prothrombin time/international normalized ratio (PT/INR), complete blood count (CBC) with platelet count. Obtain platelet count 3 to 5 days into anticoagulation therapy.
- Monitor warfarin therapy using INR; no lab monitoring required for Enoxaparin unless special circumstances such as renal insufficiency or extremes of body weight.
- Frequent INR monitoring is necessary at the onset of therapy (e.g., at least 2 checks in the first week of therapy); then at least 2 to 3 times per week for the next 1 to 2 weeks. When stable, monitor every 4 to 8 weeks.
- Maintain an Anticoagulant Monitoring Log (or dose adjustment system) for each patient treated with warfarin.
- Monitor common bleeding sites: gums, nose, gastrointestinal, genitourinary, and skin.
- Monitor for signs/symptoms of pulmonary embolism, risk factors, and side effects.
- Management through a specialized program for anticoagulation monitoring, if available.

Patient Education

- Inform patient/caregiver of the reasons for and benefits of therapy, potential side effects, importance of follow-up monitoring, warfarin dosage adjustment, compliance, dietary recommendations (i.e., a diet that is constant in vitamin K), the potential for drug interactions, safety precautions, and recognizing internal bleeding.
- Instruct patient/caregiver on symptoms of pulmonary embolism, extension of DVT, and self-injection of LMWH.
- The patient should be encouraged to be ambulatory after an appropriate weight-based dose of LMWH, or after the patient has achieved a therapeutic aPTT with standard heparin [D].
- Use an elastic compression stocking with a pressure of 30 to 40 mmHg at the ankle for 2 years after an episode of DVT [A] to prevent postthrombotic syndrome.
- Bed rest is only advised when the patient has an unstable DVT by duplex, or severe iliofemoral DVT with massive entire leg swelling.

Definitions:

Levels of Evidence for the Most Significant Recommendation

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is provided for the most significant recommendations (See "Major Recommendations" field).

This guideline is based on several sources, including: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy, American College of Chest Physicians, 2004 (www.chestnet.org).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Through a collaborative approach to developing and implementing common clinical practice guidelines and performance measures for uncomplicated deep vein thrombosis, Michigan health plans will achieve consistent delivery of evidence-based services and better health outcomes. This approach also will augment the practice environment for physicians by reducing the administrative

burdens imposed by compliance with diverse health plan guidelines and associated requirements.

POTENTIAL HARMS

Not stated

CONTRAINDICATIONS

CONTRAINDICATIONS

Relative Contraindications to Outpatient Therapy

- Pulmonary embolism
- Extensive iliofemoral thrombus
- Known potential for noncompliance
- Recent surgery/trauma
- Active bleeding
- Multiple deep vein thromboses (DVTs)
- Severe hypertension (HTN)
- Pregnancy
- Known hypercoagulable state
- Catheter-associated DVT
- Renal clearance <30 mL/min or creatinine >2.5 mg/dL
- Thrombocytopenia <100,000
- History of heparin-induced thrombocytopenia
- Childbearing age without contraception

Relative Contraindications to Warfarin

- Pregnancy
- Dementia
- Certain psychoses

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline lists core management steps. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

When consensus is reached on a final version of the guideline, a statewide mailing of the approved guideline is completed. The guideline is distributed to physicians in the following medical specialties:

- Family Practice
- General Practice
- Internal Medicine
- Other Specialists for which the guideline is applicable (e.g., endocrinologists, allergists, pediatricians, cardiologists)

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

This guideline is based on several sources, including: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy, American College of Chest Physicians, 2004 (www.chestnet.org).

DATE RELEASED

2003 Aug (revised 2005 Aug)

GUIDELINE DEVELOPER(S)

Michigan Quality Improvement Consortium

SOURCE(S) OF FUNDING

Michigan Quality Improvement Consortium

GUIDELINE COMMITTEE

Michigan Quality Improvement Consortium Medical Director's Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Physician representatives from participating Michigan Quality Improvement Consortium health plans, Michigan State Medical Society, Michigan Osteopathic Association, Michigan Association of Health Plans, Michigan Department of Community Health and Michigan Peer Review Organization

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Michigan Quality Improvement Consortium Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 14, 2004. The information was verified by the guideline developer on July 27, 2004. This NGC summary was updated by ECRI on November 28, 2005. The updated information was verified by the guideline developer on December 19, 2005.

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